OTITIS EXTERNA

A. GENERAL CONSIDERATIONS

Otitis externa ranges from a mild eczematoid dermatitis to cellulitis or furunculosis of the external ear canal. Infection is usually the cause, but an allergic reaction may create the disorder. Predisposing factors include moisture in the ear canal, trauma and seborrheic or allergic dermatitis.

B. ESSENTIALS OF DIAGNOSIS

1. Itching or pain in the ear canal, increased by movement of the pinna or pressure on the external ear canal wall.
2. Often may have purulent or watery discharge.
3. Variable acute hearing loss, depending on the amount of swelling in the ear canal.
4. Lymphadenopathy (preauricular, postauricular, or cervical nodes) in severe infection.
5. Crusting, scaling, edema, erythema, and pustule formation in the canal.

C. LABORATORY TESTS

1. None.

D. LABORATORY FINDINGS

1. None.

E. COMPLICATIONS

1. Extension of infection to face, neck (cellulitis).

F. TREATMENT

1. Rule out acute otitis media by gently removing the debris with a cotton tip applicator and then visualizing the tympanic membrane.
2. Instill topical antibiotic and steroid drops, for example: Cortisporin otic drops.
3. Give systemic antibiotics (ampicillin 500mg PO qid x 7 days) if findings indicate local extension of the infection or significant lymphadenitis of preauricular or cervical nodes.
4. Give Auralgan to reduce pain.
5. When in port, send those with significant edema of the ear canal to ENT for suctioning and systemic antibiotics.

G. DISPOSITION

1. If pain and tissue inflammation are not reduced within 48 - 72 hours, consult a Medical Officer.

OTITIS MEDIA

A. GENERAL CONSIDERATIONS

Otitis media is an acute, suppurative infection of the middle ear that may occur at any age. It usually accompanies an upper respiratory tract infection.

B. ESSENTIALS OF DIAGNOSIS

1. Acute middle ear pain or a sensation of fullness in the ear.
2. Conductive hearing loss.
3. Fever or chills may be present.
4. Tympanic membrane is bulging or dull due to fluid in the middle ear space.
5. Vessels on the malleus and annulus are dilated with a hyperemic tympanic membrane and loss of all landmarks.
6. If the tympanic membrane ruptures, exudate is found in the external canal.

C. LABORATORY TESTS

1. None.

D. LABORATORY FINDINGS

1. None.

E. COMPLICATIONS

1. Mastoiditis - rare.
2. Labyrinthitis.
3. Meningitis.

F. TREATMENT

1. Bed rest for severe cases.
2. Give systemic analgesics or antipyretics.
3. Nasal decongestants should be used to relieve upper respiratory symptoms but are not essential.
4. Give systemic antibiotics:

    a. Ampicillin 500mg PO qid x 7 days.
    b. Trimethoprim/Sulfamethoxazole (2 tablets PO bid x 7 days) if the patient is penicillin allergic.

5. If perforation develops, do not use otic suspension drops.

G. DISPOSITION

1. If complications develop, consult a Medical Officer for further instructions.
2. If ear pain or fever have not resolved within 48 - 72 hours, consult a Medical Officer.

MASTOIDITIS

A. GENERAL CONSIDERATIONS

Mastoiditis occurs as a rare complication of acute suppurative otitis media. It occurs about 2 weeks after untreated acute otitis media.

B. ESSENTIALS OF DIAGNOSIS

1. Recent acute otitis media or unresolved chronic otitis media.
2. Persistent and throbbing pain in mastoid area.
3. Redness, swelling, tenderness, and fluctuation develop over the mastoid process.
4. Continuous, purulent, creamy drainage from the middle ear.
5. Lymphadenopathy according to the severity of the infection.
6. Hearing loss.
7. Fever.

C. LABORATORY TESTS

1. WBC.

D. LABORATORY FINDINGS

1. Leukocytosis, greater than 11,0000.

E. COMPLICATIONS

1. Meningitis.
2. Brain abscess.
3. Permanent hearing loss.

F. TREATMENT

1. Aqueous penicillin G (IM or IV) or Gentamicin (IV) are the drugs of choice. Treat for 2 weeks.
2. Monitor neurologic signs for symptoms relevant to extension of infection to meninges.
3. Apply heat to area to promote drainage.
4. ASA for pain.

G. DISPOSITION

1. Contact a Medical Officer ASAP.
2. MEDEVAC within 24 - 48 hours for more specific diagnosis and treatment.
3. Watch for signs and symptoms of complications.

NOISE INDUCED HEARING LOSS

A. GENERAL CONSIDERATIONS

A sensorineural hearing loss may occur as a result of exposure (usually occupational) to high levels of noise in excess of 84 db. The onset of the hearing loss is insidious in nature with no significant subjective complaints until late in the disease.

B. ESSENTIALS OF DIAGNOSIS

1. Significant threshold shift (STS) of 15 db or greater on a monitoring or annual audiogram.
2. Hearing loss starts in the higher frequencies and expands to the lower frequencies.
3. Patient may:

    a. Speak loudly.
    b. Hear poorly.
    c. Have poor speech discrimination.

4. Weber exam will show lateralization to the better ear.
5. Rinne test shows air conduction (AC) is greater than bone conduction (BC).

C. LABORATORY TESTS

1. None.

D. LABORATORY FINDINGS

1. None.

E. COMPLICATIONS

1. Progressive deafness.

F. TREATMENT

1. Remove the patient from noise hazardous areas until evaluation is completed.
2. Reinforce use of hearing protection in noise hazardous areas.

G. DISPOSITION

1. Refer patient to an audiologist.
2. Obtain monitoring audiogram in accordance with current instructions.

PERFORATED TYMPANIC MEMBRANE

A. GENERAL CONSIDERATIONS

Perforation of the tympanic membrane can result from trauma, such as improper use of a Q-tip, with Acute Otitis Media, or as a result from diving injuries.

B. ESSENTIALS OF DIAGNOSIS

1. Severe pain, followed by bloody or purulent discharge from the ear.
2. Hearing loss and tinnitus.
3. Nausea and vertigo.
4. Otoscopic examination will confirm diagnosis (use clean speculum to avoid contamination).

C. LABORATORY TESTS

1. None.

D. LABORATORY FINDINGS

1. None.

E. COMPLICATIONS

1. Deafness.
2. Meningitis.

F. TREATMENT

1. Give systemic antibiotics to prevent secondary infection or control present infection. Give Ampicillin 500mg PO qid x 10 days or use Trimethoprim/Sulfamethoxazole 2 Tabs PO Bid X 7 days.
2. Avoid ear drops and prevent water from entering the ear.
3. Give Scopolamine or Meclizine PRN to control nausea.

G. DISPOSITION

1. Contact a Medical Officer.
2. If there are no signs or symptoms of ossicular involvement, most perforated tympanic membranes will heal spontaneously.
3. If there are signs of ossicular involvement, such as a severe hearing loss or continued vertigo, contact a Medical Officer and prepare for MEDEVAC.

SUPPURATIVE LABYRINTHITIS

A. GENERAL CONSIDERATIONS

This is a purulent disease of the inner ear. It's causes include otitis media and meningitis. Of concern is that it can lead to meningitis.

B. ESSENTIALS OF DIAGNOSIS

1. Severe vertigo.
2. Nystagmus.
3. Hearing loss is often present.
4. A history of recent otitis media supports the diagnosis.

C. LABORATORY TESTS

1. CBC.

D. LABORATORY FINDINGS

1. White blood count may be elevated.

E. COMPLICATIONS

1. Meningitis.
2. Complete hearing loss of the affected ear.

F. TREATMENT

1. Ampicillin as in Acute otitis media.
2. Give Meclizine if needed.

D. DISPOSITION

1. IMMEDIATE MEDEVAC.